

V.—*Contributions to the Study of the Entomostraca.*  
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No. VI. *On the Distribution of the British Ostracoda.*

[Plates I. & II.]

WE propose in the present paper to give (1) descriptions of a few new or imperfectly known species, (2) catalogues of some recent gatherings which present points of interest, and (3) a summary of our present information as to the distribution of the known British species of Ostracoda. Upwards of three years have now elapsed since the publication of the "Monograph of the Recent British Ostracoda" in the 'Transactions of the Linnean Society;' and during that time, by the assiduous working of old fields, and the occasional investigation of new ones, many new species have been added to our list, and much valuable knowledge has been gained as regards geographical and bathymetrical distribution. But the papers\* in which these results have been published being much scattered, and perhaps sometimes inaccessible, it seems desirable to present them here in a condensed form.

Of the one hundred and ninety-nine species now known as inhabitants of the British Islands and their adjacent seas, some six or seven may be said to stand on a rather precarious basis, having been admitted on the strength of one or two specimens only, perhaps "waif and stray," or for some other reason being imperfectly understood. In this category may be mentioned *Cypris elliptica*, *C. Joanna*, *Argillæcia cylindrica*, *Cythere borealis*, *C. mirabilis*, *C. marginata*, *Cytheridea inæqualis*, and possibly a few others. The whole may be broadly grouped under two heads, comprising the inhabitants respectively of the sea and of fresh water. But among the purely marine forms it is of interest to note that some are strictly littoral (A) in habitat, while others almost exclusively affect considerable depths of water; there is, again, a small but well-defined group, the members of which are scarcely ever to be found (setting aside acci-

\* The papers here summarized are as follows:—"A Monograph of the Recent British Ostracoda," Trans. Linn. Soc. 1868. "Last Report of Dredging amongst the Shetland Islands" (by the Rev. A. M. Norman), Brit. Assoc. Report, 1868. "Notes of a Week's Dredging in the West of Ireland," Ann. & Mag. Nat. Hist. 1869. "On the Ostracoda and Foraminifera of Tidal Rivers," *ibid.* 1870. "The Crustacean Fauna of Salt Marshes," Nat. Hist. Trans. North. & Durham, 1868. "On Entomostraca taken chiefly in Northumberland and Durham, in 1869," *ibid.* 1870. "A Review of the Cypridinidæ of the European Seas," Proc. Zool. Soc. 1871.

dental interlopers) except in decidedly brackish water (B), and yet again another, which we may regard as an offshoot from the brackish group, and whose members (C) seem to luxuriate chiefly, though not perhaps entirely, in waters which, though fresh, are subject in some slight degree to tidal influence; and in cases where these occur apart from the conditions here noted, we should be disposed to conclude either that such occurrence is accidental and perhaps not permanent, or that the local conditions have been materially changed at some not very remote epoch.

The following lists embrace the typical members of the last-named groups:—

Group A (littoral).

- Cythere badia*, Norman.
- *rubida*, Brady.
- *albomaculata*, Baird.
- Xestoleberis aurantia* (Baird).
- Cytherura nigrescens* (Baird).
- *cellulosa* (Norman).
- Paradoxostoma variabile* (Baird).
- *pulchellum*, G. O. Sars.
- *Fischeri*, G. O. Sars.
- *obliquum*, G. O. Sars.
- *hibernicum*, Brady.

Group B (brackish or estuarine).

- Cypris prasina*, Fischer.
- *salina*, Brady.
- Cypridopsis aculeata* (Lilljeborg).
- Potamocypris fulva*, Brady.
- Cythere castanea*, G. O. Sars.

*Cythere porcellanea*, Brady.

- *gibbosa*, B. & R.
- *Robertsoni*, Brady.
- Cytheridea torosa* (Jones).
- Loxoconcha elliptica*, Brady.
- *pusilla*, B. & R.
- Cytherura Robertsoni*, Brady.

Group C (subbrackish).

- Cypris incongruens*, Ramdohr.
- Cypridopsis obesa*, B. & R.
- Gonicocypris mitra*, B. & R.
- Metacypris cordata*, B. & R.
- Candona compressa*, Koch.
- *candida*, var. *tumida*, B. & R.
- Cythere fuscata*, Brady.
- Limnocythere Sancti Patricii*, B. & R.
- Darwinella Stevensoni*, B. & R.

As regards geographical distribution, the chief fact which we are at present able to point out is the admixture, at the northern extremity of our area, of a distinct glacial or arctic fauna, characterized by such species as *Cythere borealis*, *C. concinna*, *C. costata*, *C. emarginata*, *C. leioderma*, *C. mirabilis*, *Cytheridea Sorbyana*, *C. papillosa*, and *C. punctillata*; while, on the other hand, our southern and south-western shores harbour certain species which do not seem to thrive so well in more northern latitudes, and which are conspicuously absent from our eastern coast: in this list may be mentioned *Bairdia inflata*, *B. acanthigera*, and *Cythere emaciata*. Two species which are common in most other districts (*Cythere villosa* and *Loxoconcha impressa*) are also of rare occurrence on the eastern coast, the place of the latter being occupied to a large extent by *L. guttata*, and of the former by *C. lutea* and perhaps *C. albomaculata*.

A glance, however, at the table appended to this paper will at once show that our knowledge of the Ostracoda of some parts of the British seas is as yet very scanty, and that there are in fact only a few districts (columns 4, 7, 8, 9) which have been examined with tolerable completeness. Much may still be done even in these better-explored provinces, while the freshwater inhabitants of most districts are at present entirely untouched.

### 1. The Freshwater Lakes of Mayo and Galway.

Of the almost innumerable lakes scattered through these two counties we have at different times more or less thoroughly examined twenty of the most accessible, namely those lying near the roadside between Galway and Clifden, and others within easy reach of the towns of Roundstone, Clifden, and Westport. The names of these (according to the Ordnance maps) we give as nearly as possible in their natural order, beginning with the most southerly:—Lough Aubwee, L. Corrib (at Oughterard), L. Agraftard, Park Lough (Derryneen), L. Shindilla, Loughaughnarhin, L. Ardderry, Ballinahinch L., L. Naserahoge, L. Cam, L. Naweelaun, L. Bollard, L. Fadda, L. Doolagh, Seaville L., Cregduff L., L. Enask, L. Inagh, L. Moher, Coolbarreen L.

These lakes are uniformly of a character unfavourable to a great abundance of Entomostraca or any form of animal life, the bottoms being either stony or composed of a tough compact peat which does not easily disintegrate, and thus would appear to supply very scantily either food or shelter. Floating aquatic weeds, such as *Myriophyllum* and *Potamogeton*, occur also very sparingly; and though sedges and water-lilies are in some lakes plentiful enough, we have never found these very productive in Ostracoda. The following list embraces all the species taken by us; and not one of these occurred in any great abundance:—

*Cypris lævis*, Müller.

—— ovum (*Jurine*).

—— compressa, *Baird*.

—— striolata, *Brady*.

—— (?) tessellata, *Fischer*.

—— reptans (*Baird*).

*Cypridopsis vidua* (Müller).

—— obesa, *B. & R.*

—— villosa (*Jurine*).

*Candona candida* (Müller).

—— lactea, *Baird*.

—— diaphana, *B. & R.*

—— Kingsleii, *B. & R.*

*Notodromas monachus* (Müller).

*Metacypris cordata*, *B. & R.*

*Limnocythere Sancti Patricii*, *B. & R.*

*Loxoconcha elliptica*, *Brady*.

*Darwinella*\* *Stevensoni*, *B. & R.*

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\* The generic name *Polychæles*, under which we originally described this species, being preoccupied, we now propose in its place the term *Darwinella*.

The chief point of interest here is the occurrence of several species which we have been accustomed to regard as inhabitants of brackish water only, and of some (viz. *Candona diaphana*, *C. Kingsleii*, *Metacypris cordata*, and *Darwinella Stevensoni*) which we had previously supposed to be limited to the subbrackish fens and rivers of the East-Anglian district. We have, however, but little knowledge of the contents of our inland waters; and it is quite probable that further research may very much modify our views as to distribution. Meantime it may be noted that the Irish specimens of *Metacypris* and *Darwinella* are of very poor growth and very scanty in point of numbers.

*Cypris tessellata*, Fischer.

The specimens which we doubtfully refer to this species, though almost exactly similar to English examples in outline, are considerably smaller, and the shell is very vaguely sculptured, exhibiting only an approach to the characteristic tessellation of the typical form. This peculiarity, however, we have previously observed in young specimens, and even to some extent in adults from certain localities; and it would not of itself have led us to doubt seriously the identity of the Irish specimens but for a concurrent difference in the post-abdominal rami, which are long and slender, slightly ciliated on the inferior margin, and have the three terminal claws or setæ almost close together, the first seta being short, the second about three times as long as the first, and the third nearly twice as long as the second: the small seta usually found near the middle of the lower margin is wanting. The lakes in which these specimens occurred are Loughs Inagh and Coolbarreen.

*Metacypris cordata*, B. & R. Pl. II. figs. 9, 10.

Originally described from the shell only. We are now able to add a definition of the contained animal, which belongs distinctly to the family Cytheridæ.

Superior antennæ slender, six-jointed, the third, fourth, and sixth joints nearly equal in length, fifth slightly longer, last joint bearing four slender setæ, two of which are moderately long; fourth and fifth joints also bearing two or three slender apical setæ; inferior antennæ, mandible, jaw, and feet as in *Cythere*, the mandible-palp, however, short and indistinctly jointed; abdomen ending in two short curved setæ.

*Hab.* Lough Aubwee, near Galway.

## 2. East of Ireland (freshwater).

<i>Grand Canal, Dublin.</i>	<i>Belfast Canal.</i>
<i>Cypris reptans</i> (Baird).	(Lock at junction of River Logan.)
— <i>gibba</i> , Ramdohr.	<i>Cypridopsis obesa</i> , B. & R.
— <i>ovum</i> (Jurine).	<i>Cythere castanea</i> , G. O. Sars.
— <i>compressa</i> , Baird.	— <i>porcellanea</i> , Brady.
<i>Cypridopsis obesa</i> , B. & R.	— <i>gibbosa</i> , B. & R.
— <i>vidua</i> (Müller).	— <i>viridis</i> , Müller.
<i>Candona candida</i> (Müller).	<i>Loxoconcha impressa</i> (Baird).
— <i>compressa</i> , Koch.	<i>Cytherura Robertsoni</i> , Brady.
— <i>lactea</i> , Baird.	
— <i>similis</i> , Baird.	
<i>Limnocythere inopinata</i> (Baird).	
<i>Darwinella Stevensoni</i> , B. & R.	

*Candona similis*, Baird. Pl. I. figs. 1, 2.

*Candona similis*, Baird, Brit. Entom. p. 162, pl. 19. figs. 2, 2 a.

Carapace subelliptical, greatest height in front of the middle, and scarcely equal to half the length; extremities well rounded, the posterior much the smaller: superior margin very slightly arched, sloping gently from before backwards; inferior almost straight. Seen from above, regularly ovate, widest in the middle, thence tapering evenly to the acuminate extremities; width equal to rather more than one-third of the length. Shell thin, transparent. Length  $\frac{1}{3}$  inch.

This species is known to us only from two or three specimens taken in the Grand Canal at Dublin; but these agree so completely (except as regards the coloured markings, which may have been destroyed by prolonged drying amongst mud) with Dr. Baird's description that we do not hesitate to refer them to *C. similis*. Since the foregoing sentence was written a few specimens of the same species have likewise occurred to us in the neighbourhood of Sunderland, as noted below (p. 58).

## 3. Northern Coast of Scotland (marine).

For several dredgings from this district, obtained during one of the surveying-expeditions of H.M.S. 'Porcupine,' we are indebted to our friend Mr. D. O. Drewett. The dredgings are from the following localities (all purely marine, and very similar in character, so that it is scarcely necessary to give separately the lists of species from each):—Dornoch Frith, 4 fathoms; Loch Erribol; three miles off Port Skerran, 30 fathoms; Kyle of Tongue, 4 fathoms; Scarpa Bay, Orkney; Scarpa Flow, 17 fathoms; ten miles off Hoy Head, 50 fathoms; Scrabster Roads, 7 fathoms. Our list includes



also the contents of one dredging made by Mr. Robertson in Stromness Bay.

*Pontocypris mytiloides* (Norman).

— *trigonella*, G. O. Sars.

*Bairdia inflata* (Norman).

*Potamocypris fulva*, Brady.

*Cythere pellucida*, Baird.

— *castanea*, G. O. Sars.

— *porcellanea*, Brady.

— *tenera*, Brady.

— *crispata*, Brady.

— *viridis*, Müller.

— *lutea*, Müller.

— *villosa* (G. O. Sars).

— *albomaculata*, Baird.

— *convexa*, Baird.

— *cuneiformis*, Brady.

— *finmarchica* (G. O. Sars).

— *tuberculata* (G. O. Sars).

— *pulchella*, Brady.

— *angulata* (G. O. Sars).

— *quadridentata*, Baird.

— *emaciata*, Brady.

— *dunelmensis* (Norman).

— *Jonesii*, Baird.

— (?) *acerosa*, Brady.

*Loxoconcha tamarindus* (Jones).

— *impressa* (Baird).

— *guttata* (Norman).

*Loxoconcha multifora* (Norman).

*Ilyobates bartonensis* (Jones).

*Xestoleberis depressa*, G. O. Sars.

*Eucythere Argus* (G. O. Sars).

— *declivis* (Norman).

*Cytheridea elongata*, Brady.

*Cytherura nigrescens* (Baird).

— *similis*, G. O. Sars.

— *affinis*, G. O. Sars.

— *undata*, G. O. Sars.

— *striata*, G. O. Sars.

— *flavescens*, Brady.

— *cuneata*, Brady.

— *angulata*, Brady.

— *gibba* (Müller).

— *acuticostata*, G. O. Sars.

— *cellulosa* (Norman).

*Pseudocythere caudata*, G. O. Sars.

*Cytheropteron latissimum* (Norman).

*Bythocythere constricta*, G. O. Sars.

*Cytherideis subulata*, Brady.

*Sclerochilus contortus* (Norman).

*Paradoxostoma variabile* (Baird).

— *abbreviatum*, G. O. Sars.

— *flexuosum*, Brady.

— *ensiforme*, Brady.

— *orcadense*, n. sp.

*Paradoxostoma orcadense*, n. sp. Pl. I. figs. 5-7.

Carapace, as seen from the side, elongated, subreniform or subtriangular, highest near the middle, lower in front than behind; height much less than half the length; extremities rounded, the anterior being the narrower: superior margin sloping gently forwards almost in a right line from its highest point, but well arched behind; inferior sinuated in the middle. Seen from above, ovato-cuneate, widest near the posterior extremity; width equal to nearly one third of the length, sub-acuminate in front, rounded behind. Animal unknown. Length  $\frac{1}{45}$  inch.

*Hab.* Stromness Bay, Orkney; sandy bottom.

#### 4. South Wales and Bristol Channel.

*Canal and Dykes on Cardiff Moor.*

*Cypris reptans* (Baird).

— *prasina*, Fischer.

— *gibba*, Ramdohr.

— *compressa*, Baird.

*Cypridopsis vidua* (Müller).

— *obesa*, B. & R.

— *aculeata* (Lilljeborg).

*Potamocypris fulva*, Brady.

*Candona candida* (Müller).

— *albicans*, Brady.

— *lactea*, Baird.

— *hyalina* (?), B. & R.

*Limnocythere inopinata* (Baird).

*Cytheridea torosa*, Jones (var. *teres*).

*Darwinella Stevensoni*, B. & R.

*Off Penarth Head (muddy bottom).*

*Cypris compressa*, Baird.  
 — *gibba* (Randohr).  
 — *cambrica*, nov. sp.  
*Cypridopsis obesa*, B. & R.  
*Candona albicans*, Brady.  
*Potamocypris fulva*, Brady.  
*Pontocypris mytiloides* (Norman).  
*Argilloecia angustata* (Brady).  
*Cythere castanea*, G. O. Sars.  
 — *porcellanea*, Brady.  
 — *tenera*, Brady.  
 — *Jeffreysii*, Brady.  
 — *viridis*, Müller.  
 — *villosa* (G. O. Sars).  
*Limnocythere inopinata* (Baird).  
*Xestoleberis aurantia* (Baird).

*Loxoconcha granulata*, G. O. Sars.  
 — *guttata* (Norman).  
 — *tamarindus* (Jones).  
*Cytherura nigrescens* (Baird).  
 — *striata*, G. O. Sars.  
 — *cuneata*, Brady.  
 — *quadrata*, Norman.  
 — *acuticostata*, G. O. Sars.  
 — *cellulosa* (Norman).  
*Cytheropteron punctatum*, Brady.  
*Cytherideis subulata*, Brady.  
*Paradoxostoma variabile* (Baird).  
 — *abbreviatum*, G. O. Sars.  
 — *ensiforme*, Brady.  
 — *flexuosum*, Brady.

*Ilfracombe, off Lantern Hill (3-8 fathoms).*

*Cythere albomaculata*, Baird.  
 — *lutea*, Müller.  
 — *villosa* (G. O. Sars).  
 — *convexa*, Baird.  
 — *crispata*, Brady.  
 — *viridis*, Müller.  
 — *cuneiformis*, Brady.  
 — *pellucida*, Baird.  
 — *castanea*, G. O. Sars.  
 — *tenera*, Brady.  
 — *Robertsoni*, Brady.  
 — *finmarchica* (G. O. Sars).  
 — *semipunctata*, Brady.  
 — *pulchella*, Brady.  
 — *emaciata*, Brady.  
*Cytheridea elongata*, Brady.  
*Eucythere Argus* (G. O. Sars).  
*Loxoconcha impressa* (Baird).

*Loxoconcha tamarindus* (Jones).  
 — *guttata* (Norman).  
 — *multifora* (Norman).  
*Xestoleberis aurantia* (Baird).  
*Cytherura flavescens*, Brady.  
 — *nigrescens* (Baird).  
 — *striata*, G. O. Sars.  
*Cytheropteron pyramidale*, Brady.  
*Bythocythere constricta*, G. O. Sars.  
*Cytherideis subulata*, Brady.  
*Sclerochilus contortus* (Norman).  
*Paradoxostoma variabile* (Baird).  
 — *abbreviatum*, G. O. Sars.  
 — *ensiforme*, Brady.  
 — *obliquum*, G. O. Sars.  
 — *hibernicum*, Brady.  
*Asterope teres* (Norman).

The gatherings from Cardiff Canal and Dykes appear to show some slight admixture of salt water, while, on the other hand, that from Penarth Head contains several Cypridæ, which we must suppose to have been derived from some neighbouring freshwater outlet; it is scarcely likely that *Cypris compressa*, *C. gibba*, *Cypridopsis obesa*, *Candona albicans*, or *Limnocythere inopinata* are permanently established in a living condition in absolutely salt water, though the shells of several of these show that they must have been either living or only recently dead when captured. We should have been disposed to class *Cypris cambrica* in the same list; but the former being unknown as a freshwater species, and bearing at the same time a strong resemblance to "*Cytheridea*" *zetlandica*, which was taken undoubtedly living between tide-marks, we

can scarcely do otherwise than regard it for the present as a new marine form. The single specimen in our gathering is, unfortunately, only an empty shell; so that we cannot speak confidently as to its generic position.

In the Ilfracombe list the chief point of interest is the occurrence of *Cytheropteron pyramidale* (Brady), a species new to Britain, but perhaps too nearly allied to *C. latissimum* to be altogether satisfactory. The species was originally described from Norwegian examples, in No. 1 of these "Contributions." Amongst the specimens which we here assign to *Cytherideis subulata* are some of an unusually large size and of slightly more tumid and arcuate outline than the typical form; but whether these differences are sexual or varietal, or whether they constitute an altogether distinct species, we are not, owing to the emptiness of the shells, able decidedly to say. One of these is figured in Pl. I. figs. 12, 13; fig. 13, however, is unsatisfactory, the outline being too nearly ovate, and not attenuated sufficiently in front.

*Cypris prasina*, Fischer.

The species named by us in a previous paper ("On the Ostracoda and Foraminifera of Tidal Rivers") *C. fretensis*, appears to be properly referable to *C. prasina*, though the term, signifying a shade of green, is a misnomer as regards our specimens, which are in all cases of a dirty white.

*Cypris*(?) *cambrica*, n. sp. Pl. I. figs. 3, 4.

Carapace, as seen from the side, subtriangular; greatest height behind the middle, and equal to half the length; anterior extremity obtusely, posterior rather obliquely rounded: superior margin well arched, somewhat gibbous behind the middle, inferior almost straight. Seen from above, regularly ovate, with tapering acuminate extremities, widest in the middle; width considerably less than one half the length. Shell thin, semitransparent, yellowish. Length  $\frac{1}{35}$  inch.

*Cytherura quadrata*, Norman. Pl. I. figs. 10, 11.

The specimens here noted and figured are interesting as being the only ones on record, with the exception of the original types, which were taken in Shetland by Mr. Norman. Though certainly different in proportion of length to height, this species seems to us to come, perhaps, dangerously near to *C. striata*, from which the shell differs in no other essential respect.

*Paradoxostoma flexuosum*, Brady. Pl. I. figs. 8, 9.

A more extensive series of specimens from various localities.



shows that the figures and descriptions originally given in the "Monograph of Recent British Ostracoda" require emendation. The conspicuously angular example from which the figures were drawn was probably a male, and is a much less common form than that now described.

Carapace, as seen from the side, elongated, flexuous, rather narrower in front than behind; greatest height equal to one third of the length, and situated near the middle; extremities tapering, rounded; superior margin well and evenly rounded, inferior deeply sinuated in front of the middle. Seen from above, compressed, oblong, tapering to the extremities, which are acuminate; greatest width in the middle, and equal to less than one fourth of the length. Shell thin and fragile, smooth; when viewed with a high power, it is, if in good condition, seen to be marked with very delicate and closely set longitudinal striations. Length  $\frac{1}{48}$  inch.

### 5. Northumberland and Durham District.

#### *Lochend Loch, Edinburgh\*.*

Cypris gibba, <i>Ramdohr</i> .	Candona albicans, <i>Brady</i> .
— reptans ( <i>Baird</i> ).	— lactea, <i>Baird</i> .
— compressa, <i>Baird</i> .	Goniocypris mitra, <i>B. &amp; R.</i>
Candona candida ( <i>Müller</i> ).	Limnocythere inopinata, <i>Baird</i> .
— compressa ( <i>Koch</i> ).	

#### *Bolam Lake, Northumberland.*

Cypris compressa, <i>Baird</i> .	Candona candida ( <i>Müller</i> ).
— lævis, <i>Müller</i> .	Cythere albomaculata, <i>Baird</i> .
Cypridopsis vidua ( <i>Müller</i> ).	Limnocythere inopinata ( <i>Baird</i> ).

#### *Belsay Lake, East, Northumberland.*

Cypris reptans ( <i>Baird</i> ).	Cypris lævis, <i>Müller</i> .
— gibba, <i>Ramdohr</i> .	Candona candida ( <i>Müller</i> ).
— compressa, <i>Baird</i> .	— lactea, <i>Baird</i> .
— ovum ( <i>Jurine</i> ).	Limnocythere inopinata ( <i>Baird</i> ).

#### *Pond on Boldon Flats, near Sunderland.*

Cypris reptans ( <i>Baird</i> ).	Cypris lævis, <i>Müller</i> .
— gibba, <i>Ramdohr</i> .	Candona candida ( <i>Müller</i> ).
— compressa, <i>Baird</i> .	— similis, <i>Baird</i> .

#### *Seaton Burn, Northumberland, above the Sluice.*

Cypris reptans ( <i>Baird</i> ).	Cythere gibbosa, <i>B. &amp; R.</i>
— gibba, <i>Ramdohr</i> .	Limnocythere inopinata ( <i>Baird</i> ).
— prasina, <i>Fischer</i> .	Cytheridea torosa ( <i>Jones</i> ), var.
Candona candida ( <i>Müller</i> ).	teres.
Cythere castanea, <i>G. O. Sars</i> .	Loxoconcha elliptica, <i>Brady</i> .
— porcellanea, <i>Brady</i> .	Cytherura Robertsoni, <i>Brady</i> .

\* This locality, though not coming with geographical accuracy under our fifth heading, may be regarded as belonging to the same zoological province.

*Seaton Burn, below the Shuice.*

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| <p><i>Cypris gibba</i>, <i>Ramdohr</i>.<br/>       — <i>prasina</i>, <i>Fischer</i>.<br/> <i>Cythere pellucida</i>, <i>Baird</i>.<br/>       — <i>castanea</i>, <i>G. O. Sars</i>.<br/>       — <i>porcellanea</i>, <i>Brady</i>.<br/>       — <i>tenera</i>, <i>Brady</i>.<br/>       — <i>viridis</i>, <i>Müller</i>.<br/>       — <i>albomaculata</i>, <i>Baird</i>.<br/>       — <i>gibbosa</i>, <i>B. &amp; R</i>.<br/>       — <i>Robertsoni</i>, <i>Brady</i>.<br/>       — <i>cuneiformis</i>, <i>Brady</i>.<br/>       — <i>angulata</i> (<i>G. O. Sars</i>).<br/>       — <i>villosa</i> (<i>G. O. Sars</i>).<br/>       — <i>semipunctata</i>, <i>Brady</i>.<br/> <i>Limnocythere inopinata</i> (<i>Baird</i>).</p> | <p><i>Cytheridea torosa</i> (<i>Jones</i>), <i>var. teres</i>.<br/> <i>Loxconcha elliptica</i>, <i>Brady</i>.<br/> <i>Cytherura nigrescens</i> (<i>Baird</i>).<br/>       — <i>striata</i>, <i>G. O. Sars</i>.<br/>       — <i>angulata</i>, <i>Brady</i>.<br/>       — <i>Robertsoni</i>, <i>Brady</i>.<br/>       — <i>cellulosa</i> (<i>Norman</i>).<br/>       — <i>clathrata</i>, <i>G. O. Sars</i>.<br/> <i>Cytherideis subulata</i>, <i>Brady</i>.<br/> <i>Paradoxostoma variabile</i> (<i>Baird</i>).<br/>       — <i>ensiforme</i>, <i>Brady</i>.<br/>       — <i>Fischeri</i>, <i>G. O. Sars</i>.<br/>       — <i>hibernicum</i>, <i>Brady</i>.</p> |
|--|---|

*North of Whitley, on muddy sand-covered rocks, between tide-marks.*

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|--|---|
| <p><i>Pontocypris mytiloides</i> (<i>Norman</i>).<br/> <i>Cythere albomaculata</i>, <i>Baird</i>.<br/>       — <i>lutea</i>, <i>Müller</i>.<br/>       — <i>viridis</i>, <i>Müller</i>.<br/>       — <i>pellucida</i>, <i>Baird</i>.<br/>       — <i>castanea</i>, <i>G. O. Sars</i>.<br/>       — <i>tenera</i>, <i>Brady</i>.<br/>       — <i>Robertsoni</i>, <i>Brady</i>.<br/>       — <i>villosa</i> (<i>G. O. Sars</i>).<br/>       — <i>cuneiformis</i>, <i>Brady</i>.<br/> <i>Loxconcha tamarindus</i> (<i>Jones</i>).<br/> <i>Xestoleberis aurantia</i> (<i>Baird</i>).</p> | <p><i>Cytherura nigrescens</i> (<i>Baird</i>).<br/>       — <i>angulata</i>, <i>Brady</i>.<br/>       — <i>cuneata</i>, <i>Brady</i>.<br/>       — <i>undata</i>, <i>G. O. Sars</i>.<br/>       — <i>cellulosa</i> (<i>Norman</i>).<br/>       — <i>clathrata</i>, <i>G. O. Sars</i>.<br/> <i>Cytherideis subulata</i>, <i>Brady</i>.<br/> <i>Sclerochilus contortus</i> (<i>Norman</i>).<br/> <i>Paradoxostoma variabile</i> (<i>Baird</i>).<br/>       — <i>ensiforme</i>, <i>Brady</i>.<br/>       — <i>obliquum</i>, <i>G. O. Sars</i>.</p> |
|--|---|

*Seaton Carew, near Hartlepool, on muddy rocks at low-water mark.*

- |   |   |
|---|---|
| <p><i>Cythere albomaculata</i>, <i>Baird</i>.<br/>       — <i>pellucida</i>, <i>Baird</i>.<br/>       — <i>villosa</i> (<i>G. O. Sars</i>).<br/>       — <i>borealis</i>, <i>Brady</i>.<br/> <i>Cytheridea punctillata</i>, <i>Brady</i>.<br/>       — <i>cornea</i>, <i>B. &amp; R</i>.<br/> <i>Loxconcha elliptica</i>, <i>Brady</i>.<br/> <i>Cytherura nigrescens</i> (<i>Baird</i>).<br/>       — <i>similis</i>, <i>G. O. Sars</i>.<br/>       — <i>undata</i>, <i>G. O. Sars</i>.<br/>       — <i>striata</i>, <i>G. O. Sars</i>.</p> | <p><i>Cytherura cellulosa</i> (<i>Norman</i>).<br/> <i>Cytheropteron latissimum</i> (<i>Norman</i>).<br/> <i>Cytherideis subulata</i>, <i>Brady</i>.<br/> <i>Sclerochilus contortus</i> (<i>Norman</i>)<br/>       &amp; <i>var. abbreviatus</i>.<br/> <i>Paradoxostoma abbreviatum</i>, <i>G. O. Sars</i>.<br/>       — <i>ensiforme</i>, <i>Brady</i>.<br/>       — <i>pulchellum</i>, <i>G. O. Sars</i>.</p> |
|---|---|

*Off Seaton Carew, 4 fathoms; bottom of rather muddy sand.*

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|--|--|
| <p><i>Cythere semipunctata</i>, <i>Brady</i>.<br/>       — <i>pellucida</i>, <i>Baird</i>.<br/>       — <i>castanea</i>, <i>G. O. Sars</i>.<br/>       — <i>porcellanea</i>, <i>Brady</i>.<br/>       — <i>viridis</i>, <i>Müller</i>.<br/>       — <i>Robertsoni</i>, <i>Brady</i>.<br/>       — <i>villosa</i> (<i>G. O. Sars</i>).<br/> <i>Loxconcha pusilla</i>, <i>B. &amp; R</i>.<br/>       — <i>tamarindus</i> (<i>Jones</i>).</p> | <p><i>Xestoleberis depressa</i>, <i>G. O. Sars</i>.<br/> <i>Cytherura nigrescens</i> (<i>Baird</i>).<br/>       — <i>similis</i>, <i>G. O. Sars</i>.<br/>       — <i>flavescens</i>, <i>Brady</i>.<br/>       — <i>striata</i>, <i>G. O. Sars</i>.<br/>       — <i>angulata</i>, <i>Brady</i>.<br/>       — <i>cuneata</i>, <i>Brady</i>.<br/>       — <i>cellulosa</i> (<i>Norman</i>).</p> |
|--|--|

Cytheropteron latissimum (Norman).	Paradoxostoma abbreviatum, G. O. Sars.
Cytherideis subulata, Brady.	— ensiforme, Brady.
Sclerochilus contortus (Norman).	— Fischeri, G. O. Sars.
Paradoxostoma variabile (?), (Baird).	— flexuosum, Brady.

No new species occur in the gatherings from this district; but the following interesting points may be noted. *Gonio-cypris mitra* has not been met with in any other locality out of the range of the "East-Anglian" or Fen-district. *Canadona similis* was previously unknown to us except from the Dublin specimens described above (p. 52). The occurrence of *Cythere albomaculata* in a purely freshwater lake at Bolam is very remarkable, it being a species which in general, though very abundant in marine littoral situations, seems rather to shun any admixture of fresh water. The Bolam specimens are very poor and stunted, but there can be no doubt whatever as to their identity. *Cythere cuneiformis* we have been used to consider a deep-water species; but the specimens obtained between tide-marks at Whitley are the only living ones we have seen, and are very fine and well-conditioned. *Paradoxostoma obliquum*, from the same locality, and also living, is new to the east coast. The single specimen of *Cythere borealis* from Seaton Carew is much battered and worn, but can scarcely be referred to any other species. It has not previously been met with, except in the Arctic seas.

*Cytherideis subulata*, Brady. Pl. I. figs. 12, 13, and  
Pl. II. figs. 11–13.

The Seaton Carew shore specimens of this species are the first which we have found in the living state; and from the one or two which were available for dissection, we have been enabled to gather the following generic characters:—

#### Genus CYTHERIDEIS, Jones.

Superior antennæ (Pl. II. fig. 11) slender, sparingly setose; last joint short, and bearing six short terminal setæ; penultimate and antepenultimate joints each bearing a single apical seta. Mandible (fig. 12) slender and curved, divided below into about four very small indistinct teeth; palp four-jointed, its first joint bearing on the inferior margin a conical tooth-like process; third joint set along its entire length with a comb-like series of straight equal setæ; in other respects as in *Cythere*. First segment of the maxillæ (fig. 13) much stouter and larger than the rest.

The form of *C. subulata* already mentioned as occurring at Ilfracombe is figured in Pl. I. figs. 12, 13.

## 6. Frith of Clyde.

*Kames Bay, Cumbræ; on sandy rocks near low-water mark.*

Potamocypris fulva (*Brady*).  
 Cythere albomaculata, *Baird*.  
 — lutea, *Müller*.  
 — convexa, *Baird*.  
 — villosa (*G. O. Sars*).  
 — viridis, *Müller*.  
 — angulata (*G. O. Sars*).  
 — rubida, *Brady*.  
 — badia, *Norman*.  
 — pellucida, *Baird*.  
 — pulchella, *Brady*.  
 — gibbosa, *B. & R.*

Cytheridea elongata, *Brady*.  
 Loxoconcha impressa (*Baird*).  
 — tamarindus (*Jones*).  
 Xestoleberis aurantia (*Baird*).  
 Cytherura cellulosa, *G. O. Sars*.  
 — undata, *G. O. Sars*.  
 — flavescens, *Brady*.  
 — cuneata, *Brady*.  
 — nigrescens (*Baird*).  
 Cytherideis subulata, *Brady*.  
 Paradoxostoma variabile (*Baird*).  
 — hibernicum, *Brady*.

*Rothesay Bay, 2-12 fathoms; Roseneath, for half a mile east of Pier, mud and sand.*

\* Species occurring in Rothesay gathering only.

† „ „ Roseneath only.

\* Pontocypris mytiloides (*Norman*).

† Cythere lutea, *Müller*.

— villosa, *G. O. Sars*.

— pellucida, *Baird*.

† — castanea, *G. O. Sars*.

† — porcellanea, *Brady*.

— tenera, *Brady*.

— viridis, *Müller*.

† — convexa, *Baird*.

— Robertsoni, *Brady*.

\* — crispata, *Brady*.

— cuneiformis, *Brady*.

— angulata (*G. O. Sars*).

— tuberculata (*G. O. Sars*).

— concinna, *Jones*.

— dunelmensis (*Norman*).

\* — antiquata (*Baird*).

— Jonesii (*Baird*).

Cytheridea punctillata, *Brady*.

— papillosa, *Bosquet*.

† — elongata, *Brady*.

\* — subflavescens, *Brady*.

† Eucythere Argus (*G. O. Sars*).

— declivis (*Norman*).

† Hyobates bartonensis (*Jones*).

Loxoconcha impressa (*Baird*).

— granulata, *G. O. Sars*.

— tamarindus (*Jones*).

\* — guttata (*Norman*).

\* Loxoconcha multifora (*Norman*).

† Xestoleberis depressa, *G. O. Sars*.

† Cytherura nigrescens (*Baird*).

\* — similis, *G. O. Sars*.

— striata, *G. O. Sars*.

— cuneata, *Brady*.

— undata, *G. O. Sars*.

† — angulata, *Brady*.

\* — producta, *Brady*.

\* — gibba, *Müller*.

— acuticostata, *G. O. Sars*.

† — cellulosa (*Norman*).

† Cytheropteron nodosum, *Brady*.

\* — inornatum, n. sp.

— alatum, *G. O. Sars*.

† — angulatum, n. sp.

† Bythocythere constricta, *G. O. Sars*.

— turgida, *G. O. Sars*.

— simplex (*Norman*).

Sclerochilus contortus (*Norman*).

† Nipichilus tenuissima (*Norman*).

† Paradoxostoma variabile (*Baird*).

† — abbreviatum, *G. O. Sars*.

† — ensiforme, *Brady*.

\* — flexuosum, *Brady*.

† Philomedes interpunctata (*Baird*).

\* Asterope Mariæ (*Baird*).

\* Polycope orbicularis, *G. O. Sars*.

*Greenock, off the Pier, 2-6 fathoms.*

*Cypris compressa*, Baird.  
*Cypridopsis obesa*, B. & R.  
*Candona albicans*, Brady.  
*Cythere pellucida*, Baird.  
 ——— *castanea*, G. O. Sars.  
 ——— *porcellanea*, Brady.  
 ——— *viridis*, Müller.  
 ——— *crispata*, Brady.  
 ——— *lutea*, Müller.  
 ——— *villosa* (G. O. Sars).  
 ——— *angulata* (G. O. Sars).  
 ——— *tuberculata*, G. O. Sars.  
 ——— *gibbosa*, B. & R.

*Cytheridea papillosa*, Bosquet.  
 ——— *torosa* (Jones), var. *teres*.  
*Eucythere Argus* (G. O. Sars).  
*Loxoconcha tamarindus* (Jones).  
 ——— *pusilla*, B. & R.  
 ——— *impressa* (Baird).  
 ——— *granulata*, G. O. Sars.  
 ——— *fragilis*, G. O. Sars.  
*Cytherura nigrescens* (Baird).  
 ——— *cuneata*, Brady.  
 ——— *Robertsoni*, Brady.  
 ——— *cellulosa* (Norman).  
*Paradoxostoma variabile* (Baird).

The first three species in the Greenock list were in all probability washed down from some habitat higher up stream; but the gathering is characterized by the presence of several species indicating a sensible admixture of fresh water: e. g. *Cythere castanea*, *C. porcellanea*, *C. gibbosa*, *Cytheridea torosa*, *Loxoconcha pusilla*, *L. fragilis*, and *Cytherura Robertsoni*. Some, if not all, of these may doubtless be occasionally met with in purely marine situations; but their presence together, constituting one third of all the marine species in the gathering, gives an unmistakably brackish aspect to the group.

The most noteworthy species in the Clyde lists are *Bythocythere turgida*, which occurred in greater abundance and better condition than we have previously witnessed, and three species of the genus *Cytheropteron*, two of which (*C. inornatum* and *C. angulatum*) are new to us in the recent state, though we had found the latter sparingly as a fossil in certain glacial clays. The other species (*C. alatum*, Sars) has been recorded by Mr. Norman as an inhabitant of the British Seas, on the strength of a single specimen dredged a few miles east of the Island of Balta, Shetland. We are now able to add two habitats in the Frith of Clyde, Kilchattan Bay and Rothesay Bay, both in the Island of Bute. Mr. Norman having already (last Shetland Dredging Report) quoted Sars's description of the species, it is needless here to redescribe it: we, however, give figures (Pl. II. figs. 4, 5, 6) from British examples, which will more vividly realize one of the most beautiful and remarkable of British Ostracoda. The Clyde specimens are rather smaller, and have the spinous armature of the alæ less perfectly developed than those from Norway, for examples of which we are indebted to the kindness of Dr. Sars; they also exhibit, when viewed from above, a remarkable appearance on each valve, as of a large obsolete indenta-



tion, covered in up to the edge of the valve with a thin transparent coating of shell. When closely examined, the Norwegian specimens likewise exhibit traces of this structure, but very indistinctly.

*Argilloëcia cylindrica*, G. O. Sars.

A few specimens which appeared to be referable to this species were dredged off Greenock Pier. Further examination of the living animal, however, is needful before we can pronounce positively as to its identity.

*Pontocypris hispida*, G. O. Sars.

Some very fine and well-characterized examples were dredged off Cumbræ; and we have some even finer from Ventry Bay, Ireland. From a careful comparison of these with undoubted specimens of *P. mytiloides*, we think there can be no doubt that the two forms are only varieties of one and the same species. The chief distinctive characters, according to Sars, are as follows:—

*P. mytiloides*, dark brown, sparingly hispid, with short hairs; 8 posterior serrations.

*P. hispida*, yellowish, densely hispid, with long hairs; 5 posterior serrations.

Some of our examples of *P. hispida*, however, are even darker in colour than is usual with *P. mytiloides*; the degree of pubescence is subject to very great variation; and the same may be said of the number and prominence of the marginal serratures: of the anatomical differences pointed out by Sars, all we can say is that we have failed to detect any such in our specimens. Under these circumstances, we cannot hesitate to class both forms under the specific name *mytiloides*.

*Cytheropteron inornatum*, n. sp. Pl. II. figs. 1–3.

Carapace, as seen from the side, subrhomboidal, highest in the middle, greatest height equal to about two thirds of the length: anterior extremity narrowed, obliquely rounded; posterior produced in the middle into a very broad, subtruncate beak: superior margin well arched; inferior almost straight, slightly sinuated in front of the middle, and curved upwards behind. Seen from above, broadly triangular, the base or posterior side of the triangle produced into a very large central mucro; lateral angles almost rectangular, the sides thence tapering evenly with a very slight curve to the acuminate anterior extremity; greatest width equal to nearly

four fifths of the length. End view subtriangular, with broad truncate apex, concave sides, and almost straight base. Surface of the shell perfectly smooth, or marked with a very few distant puncta, the posterior portion behind the alæ more or less rugose; lateral alæ very prominent, produced to a rectangular point. Animal unknown. Length  $\frac{1}{3}$  inch.

*Hab.* Rothesay, Frith of Clyde.

This species approaches very nearly one which we have been accustomed to refer to *C. vesperilio*\* (Reuss), but differs in having a less arcuate dorsal margin, in the absence of spines at the alar angles, and in the less distinctly papillose or punctate shell: the corrugations of the posterior extremity we have not noticed in *C. vesperilio*.

*Cytheropteron angulatum*, n. sp. Pl. II. figs. 7, 8.

Carapace, as seen from the side, flexuous, subrhomboidal; greatest height in the middle, and equal to nearly two thirds of the length: anterior extremity rounded; posterior obliquely subtruncate, narrowed, and forming an obscurely upturned beak: superior margin boldly arched, somewhat flattened in the middle; inferior nearly straight, curving upwards towards the hinder extremity. Seen from above, subpentagonal, boat-shaped, widest in front of the middle, acuminate in front, broadly and rectangularly truncate behind; from the widest point the sides converge suddenly and almost rectilinearly forwards; behind they are markedly sinuous and less abruptly convergent; greatest width a little less than the height. The surface of the shell is exceedingly rugged, the lateral alæ not very much produced, but having, some little distance within and parallel to the margin, a strongly marked longitudinal ridge, from which several irregularly flexuous ribs stretch transversely across the valves, coalescing here and there into large rounded eminences, and having in their interspaces numerous irregularly angulated depressions. Length  $\frac{1}{5\frac{1}{2}}$  inch.

*Hab.* Roseneath, Frith of Clyde.

This very remarkable and distinct species occurs also, in the fossil state, in some of the glacial clays of the Clyde district.

## 7. Spitzbergen.

*Cythere laticarina*, Brady.  
 — emarginata, G. O. Sars.  
 — tuberculata, G. O. Sars.  
 — globulifera, Brady.

*Cythere concinna*, Jones.  
 — mirabilis, Brady.  
 — dunelmensis (Norman).  
*Cytheridea papillosa*, Bosquet.

\* See Brady, "On Ostracoda from the Arctic Seas," Ann. & Mag. Nat. Hist. July 1868.

Cytheridea punctillata, <i>Brady</i> .	Cytheropteron latissimum ( <i>Norman</i> ).
— sorbyana, <i>Jones</i> .	?
Xestoleberis depressa, <i>G. O. Sars</i> .	Bythocythere turgida, <i>G. O. Sars</i> .
Cytherura similis, <i>G. O. Sars</i> .	Sclerochilus contortus ( <i>Norman</i> ).
— concentrica, <i>MS</i> .	Paradoxostoma variabile ( <i>Baird</i> ).
— undata, <i>G. O. Sars</i> .	Polycope orbicularis, <i>G. O. Sars</i> .

We are indebted to our friend the Rev. H. W. Crosskey, F.G.S., for the opportunity of publishing this list, which, though it does not strictly fall within the scope of the present paper, is well worthy of comparison with the British lists. It will be seen that all the species are known as inhabitants of the British seas, more particularly of those washing the north of Scotland and Shetland. Besides those given in the list, there were amongst the specimens examined only one or two unknown or of doubtful identity. These dredgings were obtained by Mr. Lamont in his Polar Expedition of 1869, and were by him obligingly handed to Mr. Crosskey.

## EXPLANATION OF THE PLATES. :

## PLATE I.

- Fig. 1. *Candona similis*, seen from left side. }  
 Fig. 2. The same, seen from above. }  $\times 60$ .  
 Fig. 3. *Cypris* (?) *cambrica*, seen from left side. }  
 Fig. 4. The same, seen from above. }  $\times 60$ .  
 Fig. 5. *Paradoxostoma orcadense*, male (?), seen from left side. }  
 Fig. 6. The same, female (?), seen from left side. }  $\times 84$ .  
 Fig. 7. The same, ditto, seen from above. }  
 Fig. 8. *Paradoxostoma flexuosum*, seen from left side. }  $\times 84$ .  
 Fig. 9. The same, seen from above. }  
 Fig. 10. *Cytherura quadrata*, seen from left side. }  $\times 84$ .  
 Fig. 11. The same, seen from above. }  
 Fig. 12. *Cytherideis subulata* (? variety), seen from left side. }  $\times 50$ .  
 Fig. 13. The same, seen from above. }

## PLATE II.

- Fig. 1. *Cytheropteron inornatum*, seen from left side. }  
 Fig. 2. The same, seen from above. }  $\times 84$ .  
 Fig. 3. The same, seen from the front. }  
 Fig. 4. *Cytheropteron alatum*, seen from left side. }  $\times 84$ .  
 Fig. 5. The same, seen from below. }  
 Fig. 6. The same, seen from front. }  $\times 84$ .  
 Fig. 7. *Cytheropteron angulatum*, seen from left side. }  $\times 84$ .  
 Fig. 8. The same, seen from above. }  
 Fig. 9. *Metacypris cordata*, superior antenna. }  $\times 250$ .  
 Fig. 10. The same, inferior antenna. }  
 Fig. 11. *Cytherideis subulata* (typical form), superior antenna. }  $\times 210$ .  
 Fig. 12. The same, " " mandible and palp. }  
 Fig. 13. The same, maxilla.  $\times 300$ .

Table of Distribution of British Ostracoda.

The asterisks indicate the comparative abundance of the various species, \* meaning rare, \*\* of moderate frequency, \*\*\* very common.

	1. Channel Islands.	2. S.W. England (Devon, Corn- wall, South Wales, &c.).	3. West of Ireland.	4. Irish Sea (Clyde District, Isle of Man, N. Wales, Dub- lin Bay, &c.).	5. N.W. Scot- land (Skye, Hebrides, &c.).	6. N. Scotland (Orkney, Sutherland, &c.).	7. Shetland.	8. E. Scotland (Aberdeen- shire, Mont- rose, Frith of Forth, &c.).	9. N.E. England (Northumber- land, Durham, Yorkshire, and Dogger Bank).	10. S.E. England (Norfolk, Fen- district, Thames, &c.).
<i>Cypris</i>										
<i>fusca</i> , <i>Strass</i> .....	.....	.....	.....	**	.....	.....	.....	**	**	**
<i>incongruens</i> , <i>Ramdohr</i> .....	.....	.....	*	**	.....	.....	.....	.....	*	**
<i>virens</i> ( <i>Jurine</i> ) .....	.....	.....	.....	***	.....	.....	.....	.....	**	**
<i>obliqua</i> , <i>Brady</i> .....	.....	.....	.....	**	.....	.....	.....	.....	*	*
<i>ornata</i> , <i>Müller</i> .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>ventricosa</i> , <i>B. &amp; R.</i> .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>tumefacta</i> , <i>B. &amp; R.</i> .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>prasina</i> , <i>Fischer</i> .....	.....	*	.....	*	.....	.....	.....	.....	*	*
<i>elliptica</i> , <i>Baird</i> .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>punctillata</i> , <i>Norman</i> .....	.....	.....	*	.....	.....	.....	.....	*	.....	.....
<i>bispinosa</i> , <i>Lucas</i> .....	*	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>gibbosa</i> , <i>Baird</i> .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*
<i>tessellata</i> , <i>Fischer</i> .....	.....	.....	*	.....	.....	.....	.....	.....	**	*
<i>clavata</i> , <i>Baird</i> .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*
<i>salina</i> , <i>Brady</i> .....	.....	.....	.....	**	.....	.....	.....	*	**	.....
<i>gibba</i> , <i>Ramdohr</i> .....	.....	**	.....	**	.....	.....	.....	**	**	.....
<i>trigonella</i> , <i>Brady</i> .....	.....	*	.....	**	.....	.....	.....	**	**	.....
<i>reptans</i> ( <i>Baird</i> ) .....	.....	**	**	***	.....	.....	.....	**	**	.....
<i>serrata</i> ( <i>Norman</i> ) .....	.....	*	.....	.....	.....	.....	.....	.....	.....	***
<i>compressa</i> , <i>Baird</i> .....	.....	**	***	***	.....	.....	.....	.....	*	***
<i>striolata</i> , <i>Brady</i> .....	.....	.....	**	*	.....	.....	**	**	**	***
<i>ovum</i> ( <i>Jurine</i> ) .....	.....	.....	*	***	.....	.....	**	*	*	***
<i>lævis</i> , <i>Müller</i> .....	.....	.....	**	***	.....	.....	**	*	**	***
<i>cinerea</i> , <i>Brady</i> .....	.....	.....	.....	.....	.....	.....	.....	.....	*	***
<i>Joanna</i> , <i>Baird</i> .....	.....	.....	.....	.....	.....	.....	.....	*	.....	.....
<i>cambrica</i> , <i>B. &amp; R.</i> .....	.....	*	.....	.....	.....	.....	.....	.....	.....	.....
<i>Cypridopsis</i>										
<i>vidua</i> ( <i>Müller</i> ) .....	.....	**	**	***	.....	.....	.....	.....	**	***
<i>obesa</i> , <i>B. &amp; R.</i> .....	.....	**	**	**	.....	.....	.....	.....	*	***
<i>Newtoni</i> , <i>B. &amp; R.</i> .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*
<i>villosa</i> ( <i>Jurine</i> ) .....	.....	.....	*	**	.....	.....	.....	*	**	.....
<i>aculeata</i> ( <i>Lillyborg</i> ) .....	.....	*	.....	**	.....	.....	.....	*	**	.....

[illegible]



TABLE (continued).

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
Channel Islands.	S.W. England (Devon, Cornwall, South Wales, &c.).	West of Ireland.	Irish Sea (Clwyd District, Isle of Man, N. Wales, Dublin Bay, &c.).	N.W. Scotland (Skye, Hebrides, &c.).	N. Scotland (Orkney, Sutherland, &c.).	Shetland.	E. Scotland (Aberdeen-shire, Montrose, Firth of Forth, &c.).	N.E. England (Northumberland, Durham, Yorkshire, and Dogger Bank).	S.E. England (Norfolk, Fens, district, Thames, &c.).
<i>Loxoconcha</i>									
<i>elliptica</i> , <i>Brady</i> .....	**	*	*	.....	.....	.....	*	**	***
<i>tamarindus</i> ( <i>Jones</i> ) .....	***	***	***	**	**	***	**	***	***
<i>pusilla</i> , <i>B. &amp; R.</i> .....	.....	.....	*	.....	.....	.....	**	**	*
<i>fragilis</i> , <i>G. O. Sars</i> .....	*	**	**	**	**	**	**	**	*
<i>gutata</i> ( <i>Norman</i> ) .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>Xestoleberis</i>									
<i>aurantia</i> ( <i>Baird</i> ) .....	**	***	*	.....	.....	**	**	**	*
<i>depressa</i> , <i>G. O. Sars</i>	**	***	**	**	**	***	**	***	.....
<i>Cytherura</i>									
<i>nigrescens</i> ( <i>Baird</i> ) .....	**	**	***	*	*	**	**	**	***
<i>flavescens</i> , <i>Brady</i> .....	*	*	*	.....	.....	*	*	*	*
<i>angulata</i> , <i>Brady</i> .....	**	**	**	*	*	*	*	*	*
<i>producta</i> , <i>Brady</i> .....	.....	*	*	*	*	*	.....	*	*
<i>striata</i> , <i>G. O. Sars</i> .....	*	**	*	**	*	**	**	*	*
<i>lineata</i> , <i>Brady</i> .....	.....	.....	*	*	*	*	**	*	*
<i>cuneata</i> , <i>Brady</i> .....	*	**	*	*	*	*	*	*	*
<i>Sarsii</i> , <i>Brady</i> .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>simplex</i> , <i>B. &amp; R.</i> .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>similis</i> , <i>G. O. Sars</i> .....	*	*	*	*	*	*	*	*	*
<i>undata</i> , <i>G. O. Sars</i> .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>affinis</i> , <i>G. O. Sars</i> .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>Robertsoni</i> , <i>Brady</i> .....	.....	*	*	*	*	*	*	*	*
<i>gibba</i> ( <i>Müller</i> ) .....	.....	*	*	*	*	*	*	*	*
<i>cornuta</i> , <i>Brady</i> .....	.....	*	*	*	*	*	*	*	*
<i>acuticostata</i> , <i>G. O. Sars</i>	*	**	**	*	*	*	*	*	*
<i>insolita</i> , <i>Brady</i> .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>pumila</i> , <i>Brady</i> .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>concentrica</i> , <i>C., B. &amp; R.</i>	.....	.....	.....	.....	.....	.....	*	.....	.....
<i>R., MS.</i> .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>propinqua</i> , <i>B. &amp; R.</i> .....	.....	.....	.....	.....	.....	*	.....	.....	*
<i>quadrata</i> , <i>Norman</i> .....	.....	.....	.....	.....	.....	*	.....	.....	.....



1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
Channel Islands.	S.W. England (Devon, Cornwall, South Wales, &c.).	West of Ireland.	Irish Sea (Clyde District, Isle of Man, N. Wales, Dublin Bay, &c.).	N.W. Scotland (Skye, Hebrides, &c.).	N. Scotland (Orkney, Sutherland, &c.).	Shetland.	E. Scotland (Aberdeen-shire, Montrose, Frith of Forth, &c.).	N.E. England (Northumberland, Durham, Yorkshire, and Dogger Bank).	S.E. England (Norfolk, Kent, Thames, &c.).
<i>Paradoxostoma</i>									
<i>hibernicum, Brady</i> .....	*	*	*	*	.....	.....	.....	*	
<i>sarniense, Brady</i> .....	**	*	*	*	*	**	*	**	**
<i>ensiforme, Brady</i> .....	*	**	*	*	*	**	*	*	*
<i>flexuosum, Brady</i> .....		*				*			
<i>arcuatum, Brady</i> .....									
<i>Darwinella</i>									
<i>Stevensoni, B. &amp; R.</i> .....	*	*	*						**
<i>Metacypriis</i>									
<i>cordata, B. &amp; R.</i> .....		*							*
<i>Cythere</i>									
<i>lutea, Müller</i> .....	*	*	***	**	**	***	*	***	**
<i>viridis, Müller</i> .....	**	***	***	.....	*	**	*	**	*
<i>pellucida, Baird</i> .....	**	**	***	**	*	**	*	**	*
<i>castanea, G. O. Sars</i> .....		**	***	.....	*	*	*	*	*
<i>porcellanea, Brady</i> .....		**	*	.....	*	.....	*	*	*
<i>macallana, B. &amp; R.</i> .....		**	*	.....	*	.....	*	*	*
<i>tenera, Brady</i> .....		**	*	.....	*	.....	*	*	*
<i>crispata, Brady</i> .....		**	*	.....	*	.....	*	*	*
<i>badia, Norman</i> .....	*	.....	*	.....	*	.....	*	.....	*
<i>gibbosa, B. &amp; R.</i> .....		*	*	.....	.....	.....	*	*	*
<i>Robertsoni, Brady</i> .....	*	*	*	.....	.....	.....	*	*	*
<i>oblonga, Brady</i> .....									
<i>rubida, Brady</i> .....									
<i>convexa, Baird</i> .....	**	***	*	.....	**	*	*	.....	*
<i>albomaculata, Baird.</i> .....	***	***	***	.....	**	***	*	***	***
<i>leioderma, Norman</i> .....									
<i>pulchella, Brady</i> .....		*	*	*	*	*	*	*	*
<i>villosa (G. O. Sars)</i> .....	**	**	***	**	*	*	*	*	*
<i>fusca, Brady</i> .....		.....	.....	.....	*	.....	.....	.....	*
<i>cuneiformis, Brady</i> .....	*	*	*	.....	*	.....	*	*	*
<i>limicola (Norman)</i> .....	.....	.....	*	.....	.....	.....	*	*	*



TABLE (continued).

	1. Channel Islands.	2. S.W. England (Devon, Corn- wall, South Wales, &c.).	3. West of Ireland.	4. Irish Sea (Clyde) District, Isle of Man, N. Wales, Dub- lin Bay, &c.).	5. N.W. Scot- land (Skye, Hebrides, &c.).	6. N. Scotland (Orkney, Sutherland, &c.).	7. Shetland.	8. E. Scotland (Aberdeen- shire, Mont- rose, Frith of Forth, &c.).	9. N.E. England (Northumber- land, Durham, Yorkshire, and Dogger Bank).	10. S.E. England (Norfolk, Fen- district, Thames, &c.).
<i>Cytheridea</i>										
<i>zetlandica</i> , <i>Brady</i> ...	.....	.....	.....	.....	.....	.....	*	.....	.....	*
<i>subflavescens</i> , <i>Brady</i> ..	.....	.....	.....	*	*	.....	*	.....	.....	*
<i>inaequalis</i> , <i>B. &amp; R.</i> ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	*
<i>Eucythere</i>										
<i>declivis</i> ( <i>Norman</i> ) ....	*	**	**	*	*	*	**	*	**	*
<i>Argus</i> ( <i>G. O. Sars</i> ) ...	.....	*	*	.....	.....	*	*	*	*	*
<i>anglica</i> , <i>Brady</i> ....	.....	.....	.....	*	.....	.....	.....	*	.....	
<i>Ptyobates</i>										
<i>bartonensis</i> ( <i>Jones</i> ) ...	.....	.....	.....	*	*	*	*	.....	*	
<i>Cypridina</i>										
<i>norvegica</i> , <i>Baird</i> .....	.....	.....	.....	.....	.....	.....	*	.....	.....	
<i>Philomedes</i>										
<i>interpuncta</i> ( <i>Baird</i> ) ..	*	*	*	**	*	.....	*	.....	*	
<i>Bradyometus</i>										
<i>brenda</i> ( <i>Baird</i> ) ....	.....	.....	.....	.....	.....	.....	*	.....	*	
<i>Macandrei</i> ( <i>Baird</i> ) ...	.....	.....	.....	*	*	.....	*	.....	*	
<i>Lilljeborgii</i> , <i>G. O. Sars</i> ..	.....	.....	*	.....	.....	.....	*	.....	*	
<i>Asterope</i>										
<i>teres</i> ( <i>Norman</i> ) ....	*	*	.....	*	*	.....	**	.....	.....	*
<i>Mariae</i> ( <i>Baird</i> ) .....	*	*	*	**	*	.....	*	.....	.....	*
<i>Conchoecia</i>										
<i>obtusata</i> , <i>G. O. Sars</i> ..	.....	.....	.....	.....	.....	.....	*	.....	.....	
<i>Polyclope</i>										
<i>orbicularis</i> , <i>G. O. Sars</i> ..	.....	.....	*	**	*	.....	*	.....	.....	
<i>compressa</i> , <i>B. &amp; R.</i> ...	.....	*	*	.....	.....	.....	*	.....	.....	
<i>dentata</i> , <i>Brady</i> .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
<i>Cytherella</i>										
<i>scotica</i> , <i>Brady</i> .....	.....	.....	.....	.....	*	.....	*	.....	.....	
<i>laevis</i> , <i>Brady</i> .....	.....	.....	.....	.....	*	.....	*	.....	.....	